

ABSTRACT OF THE DISCLOSURE

An apparatus and method for modulating a phase of optical beam independent of polarization. In one embodiment, an apparatus according to embodiments of the present invention includes a first region of an optical waveguide disposed in semiconductor material, the first region having a first conductivity type, and a second region of the optical waveguide disposed in the semiconductor material, the second region having a second conductivity type opposite to the first conductivity type. The apparatus also includes a substantially V shaped insulating region disposed between the first and second regions of the optical waveguide, wherein a vertex of the substantially V shaped insulating region forms an intersecting line that is substantially parallel to an optical path of an optical beam to be directed through the optical waveguide.